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09/975,548	10/12/2001	Heikki Suonsivu	P 280414	7503
909	7590	08/10/2005	2010740US/VK/kop	
PILLSBURY WINTHROP SHAW PITTMAN, LLP			EXAMINER	
P.O. BOX 10500			KIM, KEVIN	
MCLEAN, VA 22102			ART UNIT	PAPER NUMBER
			2638	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/975,548

**Applicant(s)**

SUONSIVU ET AL.

**Examiner**

Kevin Y. Kim

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed May 17, 2005 have been fully considered but they are not persuasive.

Applicant traverse the rejection by arguing that the Swisher patent “does not teach or suggest that POTS and ISDN frequencies would be used as a part of VDSL.” The observation may be true but is irrelevant since the claimed invention does not such a feature. It merely defines a VDSL downlink for communication from a data network to a subscriber and a non-VDSL frequency for communication from a subscriber to a data network from a subscriber. Since the purpose of DSL technology is to utilize the conventionally unused frequencies of a twisted line pair in addition to a normal telephone service, the structure of the Swisher patent discloses VDSL as well as POTS communication just as claimed.

Applicant further argues that Furukawa and Shenoï fails to remedy the deficiencies of Swisher patent, i.e., the subject matter of claims 1 and 5. However, these references were provided to established the obviousness of dependent claims 4, and 9 and 14 respectively, further including the “negotiating” feature and “a separate bandpass filter.” Applicant has not addressed why the combination of the references teaching with respect to claims 4,9 and 14.

A new prior art reference came to the attention of this examiner since the previous Office action in connection with claim 2. In light of this newly found reference, the indication of allowability of claim 2 is withdrawn and the claim is rejected as set forth below. Claims 11 and 12 are also rejected anew as set forth below.

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2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 102***

3. Claims 1,3,5-8,10 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Swisher (US 6,385,253, previously cited).

Consider **claim 1**. Swisher discloses a method of transmitting information between a data network (not shown but coupled to BDT 100 shown in Fig.1) and a subscriber's transceiver unit (172), comprising;

using a VDSL downstream frequency band (see Fig.2) for transmitting a signal, i.e., information from the network to the subscriber's transceiver unit, see col.3, lines 8-10,

using a "non-VDSL uplink frequency band" (POTS or ISDN frequency band in Fig.2) for conveying information from the subscriber's transceiver to the network. See col. 2, line 65 – col.3, line 2.

Regarding **claim 3**, Swisher discloses using the POTS or ISDN frequency band "even at least one VDSL uplink band" (220) is usable. In other words, the POTS or ISDN frequency band may be used at the same the VDSL band is used.

Now consider **claim 5**. Referring to Fig. 3, Swisher discloses a subscriber's transceiver unit communication with a data network (not shown but coupled to BDT 100 shown in Fig.1), comprising;

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downlink filter means (350 and 345) for using “at least one VDSL downstream frequency band” (230, see Fig.2) for transmitting a signal, i.e., information from the network to the subscriber’s transceiver unit, see col. 3, lines 8-10,

uplink filter means (350 and 345) for using “at least one non-VDSL down frequency band” ( POTS or ISDN frequency band 200, 210 in Fig.2) for conveying information from the subscriber’s transceiver to the network. See col. 2, line 65 – col.3, line 2.

Regarding **claim 6**, the filter means (350 and 345) of Swisher also comprises “uplink filter means” for using one VDLS uplink frequency band, since as seen in Fig.2, it also allows the use an upstream link frequency band (230).

Regarding **claim 7**, the filter means (350 and 345) of Swisher includes a POTS splitter LPF that reads on “a bandstop filter” for implementing the non-VDSL uplink frequency band” since it stops all VDLS frequencies from being transmitted and passes the non-VDSL uplink frequency band to the network. It should be noted that the claim fails to define what frequency is to be “stopped” by the bandstop filter.

Regarding **claim 8**, the filter means (350 and 345) of Swisher includes a POTS splitter LPF (350) that reads on “a first bandpass filter” for the non-VDLS uplink frequency band since it passes only the non-VDLS uplink frequency band to the network. The filter means (350 and 345) of Swisher also includes “a second band pass filter” (345) for at least one VDLS uplink frequency band since it passes only VDSL frequency bands to the network.

Regarding **claim 10**, the filter means (350 and 345) of Swisher includes HPF (345) that reads on “a bandstop filter” it stop non VDSL frequencies from being transmitted and passes

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DLS uplink frequency band to the network. It should be noted that the claim fails to define what frequency is to be “stopped” by the bandstop filter.

Regarding **claim 13**, the lower limit of VDSL frequency is 138 kHz according to the industry standard. See ETSI Specification submitted by Applicant. Therefore, the non-VDSL frequency band, which is located below the VDSL frequency band as shown in Fig. 2 of Swisher is “approximately 138kHz.”

***Claim Rejections - 35 USC § 103***

4. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mestdagh, et al (EP 0 740 451 A).

Claim 1.

Mestdagh et al discloses a method of transmitting information between a data network (CO-IM) and a subscriber’s transceiver unit (S-IM), see the only Figure, comprising;

using an ADSL downstream frequency band for transmitting a signal, i.e., information from the network to the subscriber’s transceiver unit,

using an alternative path, i.e., “non-VDSL uplink frequency band” for conveying information from the subscriber’s transceiver to the network. See Abstract . Claimed invention recites VDSL as opposed to ADSL. However, as well known in the art, VDSL is another (faster) form ADSL. Thus, it would have been obvious to substitute VDSL as the broadband technique in the Mestdagh et al’s system for providing a faster broadband service.

Claim 2.

Mestdagh, et al discloses using the alternative path when the ADSL equipment fails, i.e., “only if no VDSL uplink bands are usable.”

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swisher (US 6,385,253 previously cited), as applied to claim 1 above, in view of Furukawa (EP 1 024 648, part of IDS submitted by Applicant).

Swisher discloses all the claimed subject matter of claim 1 as explained above but fails to teach “the transceiver unit negotiating with its peer entity as to whether at least one VDSL uplink band is usable.” Referring to Fig.3c, Furukawa teaches an initialization between two VDSL transceivers. See col. 3, line 66 – col.4, line 10. One method of the initialization involves a negotiation between the two transceivers to determine whether at least one VDSL frequency band is usable for upstream communication in order to locate an adequate upstream frequency band. See col. 4, line 61 – col. 5, line 15. Thus, it would have been obvious to one skilled in the art at the time the invention was made to design the transceiver unit of Swisher to negotiate with its peer transceiver as to whether at least one VDSL upstream band is usable for the purpose of locate an adequate upstream frequency band, as taught by Furukawa.

6. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swisher as applied to claim 10 above.

Swisher discloses all the subject matter claimed but for the transceiver further comprising “a switchable high-pass filter in series with the bandstop filter,” and the bandstop filter comprising “at least one switchable coil.” It is known in the art various designs are available to suit needs of a particular filtering requirement. Thus, it appears that it would have been obvious matter of design choice to construct the filter in a multi-

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filter fashion using another filter in series or using a switchable coil, i.e., an inductor, an essential element in a bandpass filter.

9. Claim 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swisher (US 6,385,253 previously cited) as applied to claim 8 and 5 above respectively and in view of Shenoi (US 6,829,292 previously cited).

Swisher discloses all the claimed subject matter of claim 8 as explained above but fails to teach “a separate bandpass filter for each VDSL uplink frequency band.” Referring to Fig.4 Shenoi teaches a separate bandpass filter (104) for each upstream frequency band so that each frequency band can be independently gain-adjusted, which would result in a better performance since channel characteristics vary depending on transmission frequency. See col.7, lines 2-13. Thus, it would have been obvious to one skilled in the art at the time the invention was made to provide a separate bandpass filter for each upstream frequency band in Swisher’s transceiver for the purpose of separately amplifying the upstream stream in accordance with its frequency characteristics, as taught by Shenoi.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

GB 2,313 979 A discloses a broadband digital subscriber loop system where the telephony signal is switched to bypass DSL circuit in the event of DSL failure.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Venderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KEVIN KIM  
PATENT EXAMINER  
